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Reply to Office Action of November 9, 2006

Atty Dkt No. CCCI 0114 PUS

Remarks

Claims 1-20 are pending in this application. Claims 1-3, 5-6, 8-10, 12-13, and 20 stand rejected under 35 U.S.C. 102(e) as being anticipated by Deng (U.S. Pub. No. 2002/0196491). Claims 7, 14-16, and 18-19 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Deng. Claims 4, 11, and 17 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Deng in view of Applicants' admitted prior art. The invention is believed to be patentable.

The invention relates to hybrid fiber coax (HFC) networks and to broadcast and narrowcast signal distribution technologies. Traditional approaches at the head end use radio frequency (RF) combining networks to combine and upconvert signals. Limitations of the RF combining networks (for example, static configuration) reduce the amount of HFC network bandwidth that can be economically used. The claimed invention involves an improved apparatus and method for providing the HFC forward path spectrum.

Claim 1 recites an apparatus for use in a hybrid fiber coax (HFC) network to provide an HFC forward path spectrum from the head end to a network fiber node. The apparatus comprises a head end modulator directly receiving a switchable digital data signal. The head end modulator internally processes the switchable digital data signal to produce a modulated optical signal that directly drives the network fiber node. The optical signal is modulated by a radio frequency signal. The radio frequency signal composes the HFC forward path spectrum and includes a plurality of channel slots. The radio frequency signal carries the switchable digital data signal in the plurality of channel slots.

Each independent claim, namely, claims 1, 8, and 15, specifically recites that the optical signal is modulated by a radio frequency signal that includes a plurality of channel slots, wherein the switchable digital data signal is carried in the plurality of channel slots. There is no teaching or suggestion of this particular feature, in the claimed combinations, in